(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number : **0 622 747 A3**

(12) EUROPEAN PATENT APPLICATION

(21) Application number : **94301239.3**

(51) Int. Cl.[5] : **G06F 15/72**

(22) Date of filing : **22.02.94**

(30) Priority : **01.04.93 US 41073**

(43) Date of publication of application :
02.11.94 Bulletin 94/44

(84) Designated Contracting States :
DE FR IT NL SE

(88) Date of deferred publication of search report :
01.02.95 Bulletin 95/05

(71) Applicant : **SUN MICROSYSTEMS, INC.**
2550 Garcia Avenue
Mountain View, California 94043-1100 (US)

(72) Inventor : **Kamen, Yakov**
19334 Greenwood Drive
Cupertino, California 95014 (US)
Inventor : **Sabada, Uma**
3475 Granada Avenue, Nr. 386
Santa Clara, California 95051 (US)

(74) Representative : **Wombwell, Francis**
Potts, Kerr & Co.
15, Hamilton Square
Birkenhead Merseyside L41 6BR (GB)

(54) Method and apparatus for an adaptive texture mapping controller.

(57) The present invention provides a method and apparatus for an adaptive texture mapping controller which provides a way for computer graphics system users or other functions in a graphical display system, to trade off object image rendering speed for object image texture quality. This trade-off is accomplished by providing a plurality of control signals to the adaptive texture mapping controller which indicate the level of texture quality that the user or other function desires. Upon recognizing these control signals, the adaptive texture mapping controller selects a computation method to be used in generating pixel values necessary to provide the desired level of image texture quality.

The adaptive texture mapping controller is able to determine an appropriate method for calculating the end points of span sections of scan lines to be used for the display, based upon a function of the knot parameters which correspond to the vertices which describe each edge of a polygon section of the projected object and one or more of the control signals provided, and then to determine an appropriate interpolation method for calculating the pixel values for pixels on each span chosen, based on a function of the span end points and one or more of the control signals provided. These functions of the distance between knot parameters on a polygon edge or the distance between end points of a span can be mathematical functions of pairs of knot parameters or pairs of end points respectively.

The adaptive texture mapping controller is able to determine an appropriate computation method for a given one of a plurality of hierarchical levels of image parameter calculation, where a set of control signals is supplied for each level.

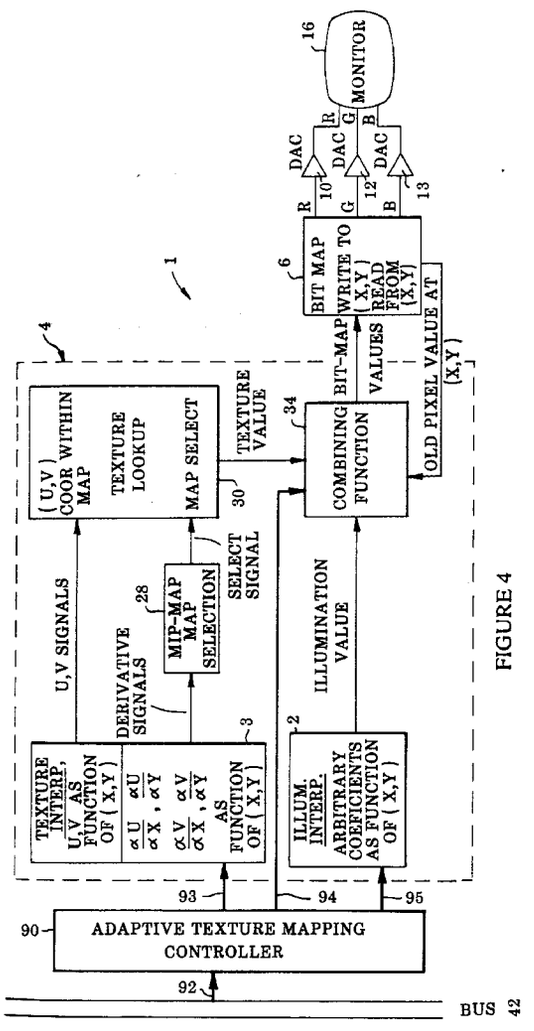

FIGURE 4

EP 0 622 747 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 1239

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
P,X	EP-A-0 550 244 (XEROX) * the whole document * ---	1-30	G06F15/72
X	GRAND PRIX. SUPPLEMENT TECHNIQUE, 1991, TETBURY UK pages 1 - 20 * page 5, line 12 - page 6, line 12 * -----	1-30	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

G06T

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	2 December 1994	Burgaud, C

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)